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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,831	02/05/2007	Kevin N. Taylor	007412.00104	8780

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EXAMINER	
ZHOU, YONG	
ART UNIT	**PAPER NUMBER**
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/570,831	TAYLOR ET AL.	
	Examiner	Art Unit	
	Yong Zhou	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 February 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 2, 13 and 14 are objected to because of the following informalities:

Claim 2 recites a limitation "the matched CD message" that is not introduced in claim 1. It is believed to refer to "the matched DCD message".

Claim 13 recites a limitation "the system of claim 5". However, claim 5 is not a system claim. It is believed that claim 13 is dependent from claim 12.

Claim 14 recites a limitation "the system of claim 6". However, claim 6 is not a system claim. It is believed that claim 14 is dependent from claim 13.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman, John T. (US 7,324,515 B1, hereinafter Chapman'515) in view of Chapman, John T. (US 7,349,430 B1, hereinafter Chapman'430).

Regarding claim 1, Chapman'515 teaches Customer Premises Equipment (CPE) for operation with a Cable Modem Termination System (CMTS), the CMTS

configured to output over a cable network out-of-band (OOB) messages in downstream IP packets attached with a well-known Ethernet address associated with the cable modem at the clients, the OOB messages being outputted over one or more one-way data tunnels where each data tunnel is identified with a network address, each well-known Ethernet address being outputted over downstream channels and identifying the Ethernet tunnel associated with the cable modem at the clients (Fig. 1, Fig. 2B, col. 2, lines 10-27 and 56-67, col. 3, lines 1-12 and 62-67), the CPE comprising:

an embedded settop box (eSTB) configured to output a CPE identifier (Fig. 1, #26, Fig. 3, #54, col. 4, line 54 through col. 5, line 10, where the STB client identifies one of the multiple STB subclients to forward the message, each STB subclient is associated with a well-known Ethernet address); and

an embedded cable modem (eCM) in communication with the eSTB (Fig. 1, #26-28, Fig. 3, #28, #54, col. 3, lines 57-59, wherein the cable client contains embedded set-top-box (STB) client and cable modem; the cable modem module sends the OOB message to an STB client), the eCM receiving the CPE identifier and configured to scan downstream channels of the CMTS for matching the well-known Ethernet address associated with the client (col. 3, lines 56-67, wherein a well-known Ethernet address is preconfigured into the cable modem at clients. The cable modem scans for the DOCSIS downstream channel. If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the OOB messages to an STB), the eCM tuning to the one or more tunnels identified in the ID matching and delivering the OOB messages included in the tuned-to tunnels to the eSTB (Fig. 3, #50,

#54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client).

Chapman'515 does not expressly teach that the CMTS configured to output downstream channel descriptor (DCD) messages, although Chapman'515 teaches that CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients (col. 2, lines 56-67).

Chapman'430 teaches that CMTS outputs downstream channel descriptor (DCD) for identifying specific downstream channels (col. 9, lines 50-65, col. 18, lines 43-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Chapman'430 into the Chapman'515 invention to include DCD for identifying different tunnels.

Regarding claim 8, Chapman'515 teaches a cable system for Out-Of-Band (OOB) messaging, the system comprising:

a Cable Modem Termination System (CMTS), the CMTS configured to output over a cable network OOB messages in downstream IP packets attached with a well-known Ethernet address associated with the cable modem at the clients, the OOB messages being outputted over one or more one-way data tunnels where each data tunnel is identified with a network address, each well-known Ethernet address being outputted over downstream channels and identifying the Ethernet tunnel associated with the cable modem at the clients (Fig. 1, #12-14, 26-28, col. 2, lines 10-27 and 56-67, wherein CMTS is configured to send OOB messages to multiple STBs at the clients;

CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients); and

Customer Premises Equipment (CPE) having an embedded settop box (eSTB) configured to output a CPE identifier and an embedded cable modem (eCM) in communication with the eSTB (Fig. 1, #26-28, Fig. 3, #28, #54, col. 3, lines 57-59, col. 4, line 54 through col. 5, line 10, where the cable client contains embedded set-top-box (STB) client and cable modem; the cable modem module sends the OOB message to an STB client. The STB client identifies one of the multiple STB subclients to forward the message, each STB subclient is associated with a well-known Ethernet address), the eCM receiving the CPE identifier and configured to scan downstream channels of the CMTS for matching the well-known Ethernet address associated with the client (col. 3, lines 56-67, wherein a well-known Ethernet address is preconfigured into the cable modem at clients. The cable modem scans for the DOCSIS downstream channel. If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the OOB messages to an STB), the eCM tuning to the tunnels identified in the ID matching and delivering the OOB messages included in the tuned-to tunnels to the eSTB (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client).

Chapman'515 does not expressly teach that the CMTS configured to output downstream channel descriptor (DCD) messages, although Chapman'515 teaches that

CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients (col. 2, lines 56-67).

Chapman'430 teaches that CMTS outputs downstream channel descriptor (DCD) for identifying specific downstream channels (col. 9, lines 50-65, col. 18, lines 43-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Chapman'430 into the Chapman'515 invention to include DCD for identifying different tunnels.

Regarding claim 15, Chapman'515 teaches for use with Customer Premises Equipment (CPE) having an embedded settop box (eSTB) and an embedded cable modem (eCM) (Fig. 1, #26-28, Fig. 3), a method for Out-Of-Band (OOB) messaging, the method comprising:

receiving OOB messages in downstream IP packets attached with a well-known Ethernet address associated with the cable modem at the clients, the OOB messages being outputted over one or more one-way data tunnels where each data tunnel is identified with a network address, the well-known Ethernet address being outputted over downstream channels and each including at least a portion of the network addresses associated with the tunnels provided by the CMTS (Fig. 1, #12-14, 26-28, col. 2, lines 10-27 and 56-67, wherein CMTS sends OOB messages to multiple STBs at the clients; CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients);

scanning downstream channels of the CMTS with the eCM for the well-known Ethernet address (col. 3, lines 56-64, wherein the cable modem scans the DOCSIS downstream channel for the well-known Ethernet address);

determining if one of the scanned channels includes IP packets attached with a well-known Ethernet address associated with the cable modem at the clients (col. 3, lines 65-, wherein If the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization and sends the OOB messages to an STB); and

controlling the eCM to tune to the tunnels specified in the ID matching and to deliver the OOB messages included in the tuned-to tunnels to the eSTB (Fig. 3, #50, #54, #56, col. 4, lines 26-32 and 45-53, wherein the DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client).

Chapman'515 does not expressly teach that the CMTS configured to output downstream channel descriptor (DCD) messages, although Chapman'515 teaches that CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients (col. 2, lines 56-67).

Chapman'430 teaches that CMTS outputs downstream channel descriptor (DCD) for identifying specific downstream channels (col. 9, lines 50-65, col. 18, lines 43-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Chapman'430 into the Chapman'515 invention to include DCD for identifying different tunnels.

Regarding claim 26, Chapman'515 teaches Customer Premises Equipment (CPE) for operation with a Cable Modem Termination System (CMTS), the CMTS configured to output out-of-band (OOB) messages in downstream IP packets attached with a well-known Ethernet address associated with the cable modem at the clients, the OOB messages being outputted over one or more one-way data tunnels where each data tunnel is identified with a network address, each well-known Ethernet address being outputted over downstream channels and identifying the Ethernet tunnel associated with the cable modem at the clients (Fig. 1, Fig. 2B, col. 2, lines 10-27 and 56-67, col. 3, lines 1-12 and 62-67), the CPE comprising:

an embedded cable modem (eCM) configured to scan downstream channels of the CMTS for IP packets attached with a well-known Ethernet address associated with the cable modem at the clients (Fig. 1, #28, col. 3, lines 56-64, wherein the cable modem scans the DOCSIS downstream channel for a well-known Ethernet address associated with the cable modem at the clients); and

an embedded settop box (eSTB) configured to determine whether the Ethernet address attached to the downstream IP packets matches with a subclient identifier (Fig. 1, #26, Fig. 3, #54, col. 4, line 54 through col. 5, line 10, wherein the STB client identifies one of the multiple STB subclients to forward the message) such that the eSTB instructs the eCM to continue scanning of the downstream IP packets if the Ethernet address fails to match the well-known Ethernet address and to tune to the one or more tunnels identified by the Ethernet address in the downstream IP packets if the Ethernet address matches with the well-known Ethernet address (Fig. 3, #50, #54, #56,

col. 56-67, col. 3, line 65 through col. 4, line 2, col. 4, lines 26-32 and 45-53, wherein if the well-known Ethernet address is detected, the cable modem proceeds with one-way initialization. DOCSIS tuner in the cable modem tunes to a downstream channel and receives OOB messages identified by the well-known Ethernet address for sending to the STB client. If a packet is detected that does not contain the well-known Ethernet address, the cable modem conducts normal two-way DOCSIS initialization and the cable modem continues to scan for the well-known Ethernet address).

Chapman'515 does not expressly teach that the CMTS configured to output downstream channel descriptor (DCD) messages, although Chapman'515 teaches that CMTS replaces the Ethernet address in the downstream packet with a well-known Ethernet that is preconfigured into the cable modem at clients (col. 2, lines 56-67).

Chapman'430 teaches that CMTS outputs downstream channel descriptor (DCD) for identifying specific downstream channels (col. 9, lines 50-65, col. 18, lines 43-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine teachings from Chapman'430 into the Chapman'515 invention to include DCD for identifying different tunnels.

Regarding claims 2, 9 and 16, the combination of Chapman'515 and Chapman'430 teaches the limitations of claims 1, 8 and 15, respectively.

Chapman'430 further teaches reliability of the cable modem network and fault recovery of the CMTS using redundant line cards so that the transmission on the

downstream channels will not be altered if an interrupt occurs to the channel (col. 23, lines 53-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further combine teachings from Chapman'430 into the Chapman'515-Chapman'430 invention to implement the reliability for the CMTS system so that the STB's will stay tuned to the tuned to tunnels to provide reliable services.

Regarding claims 3, 10 and 17, the combination of Chapman'515 and Chapman'430 teaches the limitations of claims 2, 9 and 15, respectively.

Chapman'515 further teaches that the eSTB remains tuned to the one or more tunnels identified in the well-known Ethernet address as long as the matching Ethernet address is being received by the eCM (col. 3, lines 56-61).

Regarding claims 4, 11 and 22, Chapman'515 further teaches that the network addresses are media access control (MAC) addresses (col. 3, lines 47-50).

Regarding claims 5, 12 and 23, Chapman'515 further teaches that the CPE identifier is an Ethernet tunnel identifier associated with one of the network addresses (col. 3, lines 1-12).

Regarding claims 6, 13 and 24, Chapman'515 further teaches that the tunnel identifier is a conditional access tunnel identifier (col. 4, lines 63-65).

Regarding claims 7, 14 and 25, Chapman'515 further teaches that the conditional access tunnel identifier is associated with a conditional access identification of a vendor of the CPE (col. 2, lines 28-40, col. 3, lines 27-39, col. 4, lines 62-65).

Regarding claim 18, Chapman'515 further teaches outputting the CPE identifier from the eSTB to the eCM such that the eCM determines whether the scanned channels include the matching well-known Ethernet address (col. 2, lines 56-67, wherein a well-known Ethernet value is preconfigured into cable modem at clients).

Regarding claim 19, Chapman'515 further teaches outputting the CPE identifier from a conditional access unit of the CPE to the eCM such that the eCM determines whether the scanned channels include the well known Ethernet address (col. 2, lines 27-39, col. 4, lines 62-65).

Regarding claim 20, Chapman'515 further teaches that determining whether the scanned channels include the matching Ethernet address includes outputting the well-known Ethernet address included in the downstream messages of the scanned channels to the eSTB such that the eSTB determines whether the Ethernet address matches the CPE identifier (col. 2, lines 56-67, col. 5, lines 1-10).

Regarding claim 21, Chapman'515 further teaches that determining whether the scanned channels include the downstream messages attached with a matching Ethernet address includes outputting the Ethernet address included in the downstream messages of the scanned channels to a conditional access unit of the CPE such that the conditional access unit determines whether the Ethernet address matches the CPE identifier (col. 2, lines 56-67, col. 5, lines 1-10).

Regarding claim 27, Chapman'515 further teaches that the eSTB includes a conditional access unit to determine whether the well-known Ethernet address identifier matches with the CPE identifier (col. 2, lines 56-67).

Regarding claim 28, Chapman'515 further teaches that the eSTB communicates with a conditional access unit to determine whether the Ethernet address matches with the CPE identifier (col. 2, lines 27-39, col. 4, lines 62-65).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Zhou whose telephone number is 571-270-3451. The examiner can normally be reached on Monday - Friday 8:00am - 5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. Z./

Examiner, Art Unit 2419

June 23, 2009

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2419